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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,496	07/01/2003	Tsung-Lin Lee	0941-0785P	1667
2292	7590	09/14/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				LU, JIA
ART UNIT		PAPER NUMBER		
		2611		

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

S/

Office Action Summary	Application No.	Applicant(s)
	10/609,496	LEE ET AL.
	Examiner	Art Unit
	Jia W. Lu	2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 July 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-8 is/are allowed.
- 6) Claim(s) 9-11, 14 and 15 is/are rejected.
- 7) Claim(s) 12, 13 and 16-20 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 01 July 2003 is/are: a) accepted or b) objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,896,405, in view of US application publication 2002/0051498. '405 shows a receiver comprising a de-interleaver (figure 4, elements 41 & 42), a dynamic quantizer (element 53) and Viterbi decoder which inherently receives symbols modulated with a constellation (element 54). While '405 does not describe the details of the Viterbi decoder, including a metric generator for partitioning signals into zeros and ones, such a feature is well known in the art, as described in '498 (paragraph 0108). It would have been obvious to one ordinarily skilled in the art to include this metric generator in the Viterbi encoder of '405 in order to aid in the proper procedures of the decoding process.

2. Claims 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,896,405 and publication 2002/0051498, further in view of US patent 7,099,410. While above references do not show the de-interleaver to provide a real part for even bits and an imaginary part for odd bits, such a feature is well known in the art ('410 column 10, lines 52-62), and it would have been obvious to one ordinarily skilled in the art to include this feature in the receiver '405 in order to further reduce its complexity.
3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,896,405 and publication 2002/0051498, further in view of US application publication 2002/0186797. While 'references used above do not teach the receive to comply to DVB-T standards, such a feature is well known in the art, as described in '797 (abstract and paragraph 0069). It would have been obvious to one ordinarily skilled in the art for the receiver to comply with DVB-T standards in order conform to accepted standards in broadcasting and thereby increasing the compatibility and marketability of the receiver.

Claim Objections

4. Claims 9-20 are objected to because of the following informalities: In line 1 of claims 9 and 16, "OFDM" should be properly spelled out. Appropriate correction is required.

Allowable Subject Matter

5. Claims 1-8 are allowed.
6. Claims 12 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jia W. Lu whose telephone number is 571-272-6042. The examiner can normally be reached on Mon- Fri, 10:30AM-6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jia Lu
Examiner

Chieh M. Fan
CHIEH M. FAN
SUPERVISORY PATENT EXAMINER